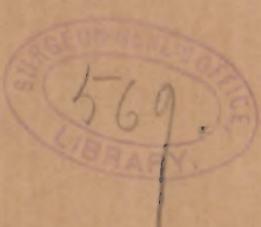


BREMER (L.)

WITH THE COMPLIMENTS
OF THE AUTHOR

On Cyclone-Neuroses and
Psychoses.

By Dr. Ludwig Bremer, St. Louis, Mo.



ON CYCLONE-NEUROSES AND PSYCHOSES.*

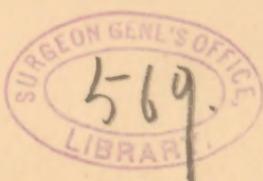
BY DR. LUDWIG BREMER, ST. LOUIS, MO.

That a frightful catastrophe like the one that befell St. Louis on the memorable 27th day of May, 1896, should effectively and disastrously tell on the nervous system of a number of its inhabitants, is self-evident. If we remember how unfavorably the nerves and minds of many people are impressed even by ordinary changes of the weather it will be readily understood, how a calamitous atmospheric disturbance of the intensity and extent of the St. Louis cyclone should work havoc among the inhabitants of the part of the city that lay in its path or bordered upon it.

After the lapse of almost half a year since its occurrence it is possible, in a measure, to survey the damage it has done to the nervous systems of a number of the victims. The unexampled ferocity and almost incredible violence of the storm sweeping through a densely populated portion of our city has been the cause of many mental and nervous wrecks — how many, it can only be surmised, but never definitely ascertained.

Etiologically and clinically the nervous ailments following the cyclone bear a strong resemblance to those resulting from railway accidents. Concussion

* Read before the St. Louis Medical Society, November 14, 1896.



and physical injuries of a graver or lighter nature, coupled with fright, was the nature of the etiological factor in the cyclone neuroses, as it is in the railway-brain and the railway-spine. As in the latter, the accident was not the exclusive cause of the nervous disturbance that followed. It acted as an exciting cause, the predisposition, being the more important one of the two, existing before. As in railway neuroses, it was not so much the physical gravity of the injury that gave rise to the more or less serious nerve-disturbances later on, but, it was fright coupled with physical injury that stamped the resulting nervous disease in many cases as a traumatic neurosis. In many cases it was fright or excitement alone that brought about the nervous disorder. As in railway-neuroses, so in those due to the cyclone there was the characteristic disproportion between the nature, extent and gravity of the trauma, and the seriousness of the nervous disease following it. In short, the cyclone neuroses, if it be permitted to coin this name, arose only in persons whose nervous system was not in a satisfactory state of equilibration at the time the catastrophe overtook them.

Hence the predominance of traumatic hysteria among the variegated array of cyclone neuroses. The now generally acknowledged prevalence of the hysterical temperament and predisposition not only in women, but also in men, and robust men at that, renders it intelligible that a comparatively large number of paralyses both motor and sensory have come under observation.

The cases occurring in my own practice comprise two of traumatic hysterical paraplegia, both of which recovered and in neither of which was there any sign

of physical injury, although both patients maintained that they must have been struck in the back by a flying fragment. Both patients were women. In a young man of twenty-four I saw left-sided hemiplegia resulting apparently from a comparatively slight contused wound of the scalp corresponding to the arm center of the left hemisphere. He was in a dazed condition for about two days after the cyclone, the greater part of this period being a blank to him. He was in a building which was almost completely destroyed and did not know where or in what manner he received the injury. On the third day, when he recovered from the semi-stuporous condition, he suddenly developed a left-sided incomplete hemiplegia accompanied with athetosis of the fingers and ataxia of the left leg. The athetosis has disappeared, but the paretic condition of the left arm and leg, also the ataxia of the latter, still continue. There has been transitory blindness, loss of smell and taste on the corresponding side, also a slight degree of sensory dullness in the affected members. The facial muscles have never been implicated. The patient avers that he never had an hysterical spell in his life, but admits that he always has been of a nervous temperament, and has been subject to choking sensations, seeming inability to swallow and a tight-collar-feeling around the neck, all pointing to dormant hysteria.

I have heard of a number of hysterical hemi- and monoplegias but have not had an opportunity of examining them. Hysterical aphasia and aphony seem to have been a frequent occurrence. At the time the calamity took place there were three cases of hysterical aphasia under my observation. The patients did not live in the stricken district but the fright had a dam-

aging effect on their general condition. One developed a sensory-sensorial right-sided hemiplegia lasting three weeks, another had her intermittent aphasia of a few moments' duration converted into one lasting three months; she recovered suddenly on a pleasure trip and has remained well since. I know of one patient, a girl at 18, who had been aphasic for one month about a year previous to the cyclone. She again lost her speech during the storm although she did not live in the stricken district, and recovered it three weeks later. Since then she has had many recurrent aphasic attacks of short duration, whenever the skies looked threatening, or when she heard the wind blowing at nights. If there were any sudden recoveries from aphasia due to cyclone-fright and emotion analogously to the case of Darius' son, I do not know of them.

But sudden and decided improvements, though more or less temporary, did occur in quite a number of cases of chronic hysterical invalidism in women. What is often observed in times of sudden commotions and upheavals, whether social or, as in the present instance, elemental, hysterical and debilitated females who under ordinary circumstances are upset and frightened by the most trivial happenings, showed themselves heroines, setting examples of calmness, self-possession and energy. One of these women had spent the greater part of the last two years in the invalid chair suffering from sleeplessness, want of appetite and almost continuous nervous excitement. During the cyclone she became suddenly her former self again, gave directions for the safety of the rest of the family, superintended the moving of the household goods from her demolished house to another part of the city, worked all day, ate and slept well as

long as the situation demanded extraordinary effort, and, after everything had been satisfactorily arranged, relapsed into her former condition and took again to the invalid chair.

The impressions received by persons having the hysterical predisposition, have been more or less lasting and showing themselves in the classic protean manner characteristic of hysteria. Thus, a young man of twenty-six, who was overtaken by the cyclone while in a buggy driving a horse, has had from that time on periodical attacks of vertigo, objects around him moving, swaying and turning; at the same time there is numbness amounting almost to anesthesia at times of both hands, glove-fashion, extending a little ways above the wrist. Fear, excitement and general uneasiness attend such attacks, that last from five to fifteen minutes. Similar attacks, constituting morbid reminiscences of the shock undergone by the nervous system at the time of the calamity by a large number of neurotic people have persisted up to the present time, six months after the disaster. What Charcot used to insist upon in his lectures on hysteria, that sex and muscular strength does not cut so much of a figure in the development of hysterical and hysteroid affections, contrary to what is generally supposed by the laity and a considerable portion of the medical profession, and that strong men, endowed with apparently robust nervous systems, may be afflicted with genuine hysteria, due to injury coupled with fright, or by fright and emotion alone, has been amply verified by the neurologic history of the St. Louis cyclone. As is usual, in hysterical affections, the accounts of the patients as to the nature and peculiarities of their ailments due to the disaster verge frequently on the

phantastic, sometimes on the grotesque and often the incredible. Individual self-suggestion places its stamp and signature on the clinical picture drawn by such patients. The capricious and erratic localizing tendencies of hysteria whether idiopathic, toxic or traumatic, has no doubt furnished in this instance a number of puzzling and paradoxical organ-affections which have, or will come under the observation of the several specialties of medicine. I have no doubt that peculiar eye, ear, throat, lung, heart, intestinal and genito-urinary affections have come to the notice of the general practitioner and the specialists, all dating from the cyclone and being hysterical or hysteroid in character.

Whilst hysteria, being the most prevalent neurosis, has furnished the chief contingent of nervous maladies following the catastrophe, there is no want of other nervous affections which were called into activity and were developed by the cyclone. That neurasthenia should have manifested itself in many persons predisposed to this morbid condition might be easily inferred. It holds, indeed, the second place in the nosological list of cyclone-neurosis, as far as my observations go.

If it be taken for granted, that morbid fears and apprehensions coupled with, or perhaps resulting from, an easily exhaustible and irritable physical condition constitute the essential nosological features of neurasthenia, it becomes easily intelligible how a violent atmospheric disturbance leaving death and destruction in its path could set up in the predisposed, *i. e.*, in persons of unstable nervous equilibrium, that train of symptoms which make up the clinical picture of neurasthenia. Among the various phobias which are gen-

erally set down as symptomatic of neurasthenia the morbid fear of lightning is quite common. No wonder, then, that the cyclone fear should be incorporated in the store of phobias with which the neurasthenic is ordinarily afflicted. Fear, often amounting to terror, in view of impending instantaneous death, and the consciousness of being absolutely helpless in face of unwonted and inconceivable elemental powers let loose and unfettered; fright with its unnerving and demoralizing effects on the soul of man, is the pathogenetic keynote of all the cyclone neuroses, but particularly of cyclone neurasthenia.

A very instructive school for studying the effects of overwhelming fright upon man would have been the race-track with its thousands of people, to the scientific observer, provided the observer had remained sufficiently calm in the midst of uproarious and devastating elements, which is not probable. When the grand stand had been carried away, hundreds of the race-track frequenters who, under ordinary circumstances cannot be classed with the particularly God-fearing people, fell down on their knees and prayed fervently. There was a series of minor storms following the main one of May 27th, at intervals of a week or so, and every one produced a panic and stampede among the race-track habitues. The cyclone fear seemed to grow in intensity as the summer with its many rain-showers and thunder-storms wore on. The fright-neurosis finally developed to such a degree that the crowds at the track would disperse, seek the open spaces on the first appearance of a dark cloud, and throw themselves on the ground whenever the winds became unusually high. Nor was this exorbitant fear confined to impressionable and neurotic. The whole

population of the city seemed to be morbidly infected with a panicky feeling. Everybody seemed to watch the sky; whenever it assumed a threatening aspect, bicycle riders would run a mad race for home, men and women ordinarily fearless and courageous would seek the shelter of houses, when out on the street, and the inhabitants of the stricken districts would take refuge in the cellars. Many did not venture out of their houses for weeks and months, whilst others could not be induced to go or drive any considerable distance from their homes for fear of being caught in a cyclone. The weather-prophets contributed a considerable share to the spread and intensity of this demoralization. Sky-gazing and studying the weather-reports, official and amateur, became to many an exclusive occupation, developing in some instances into a veritable obsession. Hence it is not to be wondered at, that the number of neurasthenics has increased in St. Louis and existing neurasthenias have been rendered worse.

Among the other neuroses caused or evoked by cyclone fright, and observed by me personally, are a case of epilepsy, two of chorea and one of *paralysis agitans*. In all these patients the intense fright only acted the part of the drop that causes the full vessel to flow over.

Among the rarer neuroses that followed in the wake of the cyclone and its successors of minor importance may be mentioned urticaria accompanied by intestinal disturbances. *Febris simplex*, or nervous chills, presenting the strict periodicity of malarial attacks, were not infrequent. There was even genuine malaria to such an extent as had not prevailed in St. Louis for many a year. At first I was inclined to set all the cases reported as malaria down as nervous chills, symptom-

atic of fright — neurosis and neurasthenia. In some cases of this kind the examination of the blood failed indeed to demonstrate the presence of the malarial parasite. But I soon convinced myself that genuine malaria abounded in our city and what used to be an extremely rare occurrence in my hematological studies for years, a blood-specimen exhibiting the plasmodium malariae, became an every-day occurrence. Diarrhoeal diseases also prevailed to an unusual extent. Thus, it would seem that the theories, now almost abandoned, of telluric and atmospheric influences as bearing on parasitical and infectious diseases is not entirely without foundation and that the reasoning of former generations of physicians as to cause and effect between earthquakes and epidemics has not been entirely without foundation. Certain it is that continuous fright lowers the vitality, impairs nutrition and normal resisting powers and paves and prepares the way for the invasion of the human organism by pathogenic microbes. In the middle ages there was a firm belief among the writers on the subject that the bubonic pestilence or black death which carried away about 25 per cent of the European population owed its origin to the many cataclysms which struck the people of those times with terror.

Sudden and intense fear of death is said to produce in some sudden changes in the skin and the hair. No such case has come to my knowledge, although I have instituted inquiries in this direction. But I have heard a number of women complaining that their hair has been falling out since the cyclone, and that it has become dry and brittle. That a tropho-neurosis of this kind really may have resulted from the cyclone fright, is true, although such statements are to be accepted with caution.

This much about the neuroses of cyclone origin. As will be seen from the foregoing, it is questionable whether some of the cases referred to ought not rather be classified with the psychoses. There is indeed, as every physician knows, a broad strip of ground common, so to say, to the nervous or mental diseases, a neutral ground, as it were, where they commingle freely, until it is impossible to tell one class from the other. In other words, neuroses and psychoses often merge the one into the other, there being no sharp dividing line between the two.

When a so-called border-liner meets with a sudden shock, such as our cyclone produced on the brains of men, he is apt to cross the line, leave the borderland and pass over to the realm where perverted thought and feeling reign supreme, to the midnight-side of the mind. The newspapers describing the mental state of persons who were caught by the cyclone in the street, emphasized the dazed condition of these victims, lasting for hours. I have heard the expression time and again, that all seemed like a dream, that many people were in a trance-like state, going through the daily routine of business or avocation without remembering a thing about it afterwards. For the time being they were automatons. One woman who became a patient of mine related of her own person a well marked case of retrograde amnesia. Not only had she forgotten everything about the cyclone, though she moved about and performed rational acts during the time it lasted, but she had forgotten everything that happened during the rest of the day previous to the storm. Even persons who had been absent from their homes that day in the devastated districts felt somewhat of this somnambulistic condition of mind, an inability to under-

stand and grasp the import of what had happened. In this condition many that had been addicted to alcoholism but had quit, went on sprees and did not sober up for weeks. They were veritable Rip Van Winkles when they finally recovered their senses. It is natural to infer that many cases of insanity would develop under such disease-forming conditions. This was, however, not the case. As far as my inquiries went, I could not trace a single case for months, received at the institutions for the insane, attributable to the cyclone. True, I saw a few cases of melancholia and paranoia that had become aggravated by the fright, but maniacal cases which one would expect to result from a commotion of this sort, I have failed to discover. I have, however, seen a few and heard of quite a number of patients gone insane since the cyclone, in whom reminiscences of the latter in the shape of symptomatic emotions and delusions were quite conspicuous. Thus, a religious paranoiac, a young unmarried woman of twenty-nine, astounded her family a week after the cyclone by the announcement, that she had brought about the calamity by her enormous wickedness. The family claim that they never noticed any mental abnormalities in the patient before. She still has this delusion and probably others, but is reticent on the subject. A widow of forty-five, suffering with melancholia simplex had to be removed from the cyclone district where she lived, to another part of the city, owing to the continuous weeping whenever she saw ruins or debris resulting from the storm. Though self-contained enough to conceal her mental condition from strangers, she would burst out into an uncontrollable crying spell as often as she passed the ruins of the City Hospital. Such emotional out-

bursts were, however, not unfrequent even in persons who could not be said to be of unsound mind.

Considering the fact, that even persons with stout hearts and robust brains were moved to tears by the sight of the ruins even weeks after the accident, it is no wonder, that a tearful and despondent mood took possession of many people, especially where there was cause for physiologic grief owing to the death of family members and friends, or loss of property. For that matter melancholia seemed, in a measure, to have invaded every household.

Of late the cases of mental disorder alleged by the patients' families to be due to the cyclone have been somewhat more numerous in my practice, than they were two or three months after the disaster. Thus, I notice that, in giving the history of a patient, the cyclone is mentioned as the time when the first symptoms of the mental disorder declared themselves, thus replacing the grippe, sunstroke and typhoid fever, with which the histories of mental diseases used to begin in former times. This applies, of course, likewise to the neuroses.

The profound and lasting impression which the disaster produced on the minds of the persons who witnessed it has in many of them been reflected in their dreams. The importance and significance of dreams in the development of insanity, as factors and as symptoms, is well known. Like unto the victims of railway and other grave accidents many persons who were in the midst of the calamity have dreamt the whole scene with all its details over again, night after night, for weeks and months. It is needless to point out or dwell upon the dangers resulting from this morbid condition.

The literature on the subject of neuroses and psychoses following elemental catastrophes are very scant. One should think, that the effects which the most formidable of all telluric convulsions, the earthquakes, have on the nervous system of man would have been described by physicians or lay observers. I have tried to look up the subject, but have been able to find only two articles, both relating to the earthquake in Charleston. One is by Dr. Porcher,* the other by Dr. John Guitéras.† In neither has there been any attempt of neurologic classification of the cases reported. The nervous disturbances seem to have been of about the same kind as those observed after our cyclone. The anticipation of a recurrence of the shocks plays also an important part in the mental state of the afflicted. Nausea and vertigo, flushes, tingling and pricking sensations, sudden pains, lachrymation, the smelling of sulphur and rhubarb, etc., are among the nervous disturbances mentioned.

In conclusion I will mention the effect the cyclone has had upon animals. The terror which earthquakes produce upon horses and dogs is well known. Humboldt mentions in his *Kosmos* the great susceptibility of chickens, dogs, hogs, asses and alligators, who perceive the trembling of the ground sooner than man does. The alligators leave the bottom of the rivers, before an earthquake occurs. No doubt this is the result of experience and the fear of a danger which they know. From a number of reliable witnesses I have heard that chickens, horses and dogs that had passed

* Influence of earthquake shocks upon health. *Med. News*, vol. 49 (1886), p. 651.

† Influence of earthquakes upon health. *Med. News*, vol. 50 (1887), p. 37.

through the cyclone were as nervous as men and women, at the approach of a storm, and sought shelter precipitately. I have been informed that this was particularly the case with the chickens.

Whether the catastrophe will have an unfavorable effect on the children who are born after the cyclone, remains to be seen. French neurologists speak of a specially neurotic class of persons whom they style "*enfants de siège*," children born of mothers who had passed through the terrors incident to the bombardment of Paris. Whether there will be any cyclone children for the coming generation of St. Louis neurologists to write upon, the future alone can tell.

